

**UNITED STATES COURT OF APPEALS FOR  
THE FEDERAL CIRCUIT**

2012-1309

BROADCOM CORPORATION,

*Plaintiff-Appellee,*

v.

EMULEX COPORATION

*Defendant-Appellant,*

Appeal from the United States District Court for the Central District of California  
in Case No. 09-cv-1058, Judge James V. Selna.

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**DEFENDANT-APPELLANT EMULEX CORPORATION'S NON-  
CONFIDENTIAL OPENING BRIEF**

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## CERTIFICATE OF INTEREST

Counsel for Defendant-Appellant Emulex Corporation certifies the following:

1. The full name of every party or amicus curiae represented by me is: Emulex Corporation
2. The name of the real party in interest (if the party name in the caption is not the real party in interest) represented by me is: N/A.
3. All parent corporations and any publicly held companies that own 10 percent or more of the stock of the party or amicus curiae represented by me are: N/A.
4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court are:

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Dated: June 11, 2012

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*Confidential business information of the parties and third party customers has been redacted on pages 9, 11-13, 54-58, 60-62.*

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### **STATEMENT OF RELATED CASES**

There has been no previous appeal in this civil action. As this is an interlocutory appeal from an order entering a permanent injunction on two of six patents tried in the district court, there remain ongoing proceedings in the district court, with a scheduled retrial for three of the patents-in-suit after a jury did not reach a verdict on those patents.

### **JURISDICTIONAL STATEMENT**

The district court had jurisdiction over this patent infringement action pursuant to 28 U.S.C. §§ 1331, 1338(a). Emulex Corporation appeals a permanent injunction of the district court, issued on April 3, 2012, enjoining sales for products found to infringe U.S. Patents 7,050,150 (the '150 patent) and 7,471,691 (the '691 patent). [A1] Emulex timely filed its Notice of Appeal on April 5, 2012. [A24971] This Court has jurisdiction under 28 U.S.C. § 1292(c)(1).

## **STATEMENT OF THE ISSUES**

1. Whether the district court erred in granting JMOL in favor of the party with the burden of proof, when it found Emulex infringed the '150 patent as a matter of law despite the fact that (i) Broadcom did not present evidence that each claim limitation was met, and (ii) the court improperly resolved material factual disputes between the parties' experts by making credibility determinations and inferences in favor of the moving party?
2. Whether the '150 patent is invalid over a single reference that (i) expressly discloses every limitation in the asserted claim except for a "data path," which skilled artisans understood to be necessary to perform functions described in the reference, and (ii) the level of skill in the art was found to include several years of specific experience implementing data paths for the same purpose as the asserted claim?
3. Whether the district court erred in granting JMOL in favor of the party with the burden of proof, when it found Emulex infringed the '691 patent as a matter of law despite significant factual disputes between the experts, which the district court improperly resolved by making credibility determinations and inferences in favor of the moving party?
4. Whether the district court abused its discretion in enjoining products found to infringe the '691 patent, when this patent is directed solely to Fibre Channel products and Broadcom can show no irreparable harm as it does not compete directly or indirectly in the Fibre Channel market?
5. Whether the district court abused its discretion in defining the scope of the injunction as to the '150 patent when (i) Broadcom has not established irreparable harm from sales of the accused products which are pure Fibre Channel or for which there has already been a design win and (ii) the district court failed to give proper weight to the significant irreparable harm to third parties created by the injunction?

## **STATEMENT OF THE CASE**

The district court has issued a permanent injunction preventing Defendant-Appellant Emulex from making or selling the networking products that the court

held infringed the '150 and '691 patents, even though no jury has ever found either of the two patents infringed. [A1]

Plaintiff-Appellee Broadcom filed suit in the Central District of California in September 2009, asserting infringement of ten patents, later adding an eleventh through an amended complaint, and a twelfth through an additional consolidated lawsuit. [A18372; A18808; A19588; A19659]

Six patents remained in the case at the time of a jury trial in September-October 2011. Before the case went to the jury, the district court ruled as a matter of law that the '150 patent was infringed. [A32] With respect to this patent, the jury then determined that Emulex's infringement was not willful, that Emulex had not shown the patent to be obvious, and that Broadcom should receive \$387,922 in damages. [A1178-81] For the remaining patents, the jury found no infringement of one patent, and deadlocked on the remaining four patents, including the '691 patent. However, at the post-trial hearing, the district court held as a matter of law that the '691 patent was also infringed. [A40-46] The court also reaffirmed its prior JMOL of infringement for the '150 patent [A33-39] and held that the '150 patent was not invalid for obviousness [A239-49].

The district court entered a permanent injunction on April 3, 2012, which was immediately effective except for a narrow sunset provision that applied to only

a subset of products. [A1; *see also* A10] On April 15, the district court denied Emulex's motion to stay the injunction pending appeal. [A250-53]

Subsequently, Emulex filed a motion to stay the injunction pending appeal in this Court, which remains pending.

On May 30, the district court issued an additional order regarding the scope of the injunction's sunset provision, which held that Emulex's distributor customers would be categorically excluded from the sunset provision.<sup>1</sup> [A5886]

### **INTRODUCTION**

The District Court in this case twice granted Broadcom the “extreme” and “exceptional” remedy of JMOL of infringement, despite Broadcom bearing the burden of proof. Such extraordinary relief must be based on evidence that a jury would not be at liberty to disbelieve, and from which the only reasonable conclusion would be in the movant's favor. With respect to both the '150 and '691 patents, the record shows that the district court invaded the province of the jury by resolving significant factual disputes, making credibility determinations, and drawing inferences from thin and conclusory evidence in order to find infringement as a matter of law.

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<sup>1</sup> The court's only exception was a narrow provision that would allow specific end-users to petition to meet an emergency public safety, public health, or national defense need. [A5888-89]

For example, on a hotly disputed question of whether Emulex's accused circuits met the crucial interpolator control module ("ICM") claim limitation in the '150 patent, Broadcom (and the court) relied on unsupported expert witness claims that lacked any detail about how the accused circuits meet the entire ICM limitation or are adapted to cause the specific phase rotation recited in the claim. The district court instead relied upon inferences and its own assumptions about the operation of the accused products—assumptions which were never the subject of any testimony or evidence at trial. Similarly, in the case of the '691 patent, the district court took upon itself to resolve numerous material disputes in favor of Broadcom, including credibility determinations regarding expert testimony and inferences from disputed facts. Both Ninth Circuit and Federal Circuit authority prohibit a trial court from usurping the role of the jury on issues of witness credibility and the inferences to be drawn from the evidence.

The district court also erroneously found the '150 patent not obvious. Undisputed evidence showed that a single prior art reference discloses all of the claimed elements of claim 8 save one: it does not have the explicit depiction of using a clock recovery circuit to sample data. As the evidence showed, this feature was the only reason for the prior art reference to solve the problem it addresses, the same problem the '150 patent solves in the same way. Thus, only the slightest common sense inference, applied to a known problem with overwhelming

expectation of success, was required to establish obviousness. KSR and its progeny mandate reversal on this issue.

The dire consequence of the district court's erroneous and improper grant of JMOL was its issuance of a permanent injunction that is deeply flawed in scope and fraught with factual errors. At its core, the district court's injunction is punitive in nature—it prohibits sales of Emulex products for which Broadcom has no alternative offering, harming both Emulex and numerous third parties without any corresponding competitive benefit to Broadcom. The district court's injunction should be mooted by reversal of the JMOLs, but at a minimum the record fully supports monetary damages as an adequate remedy for those product cycles already committed to Emulex and for those product markets where Broadcom indisputably lacks any alternative product offering.

## **STATEMENT OF FACTS**

### **A. Fibre Channel, 10Gbps Ethernet, and Fibre Channel over Ethernet (FCoE)**

At issue in this case are three different types of network protocols: Fibre Channel, 10Gbps Ethernet,<sup>2</sup> and Fibre Channel over Ethernet (FCoE). These networking technologies are used in high-end servers and storage products that are

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<sup>2</sup> 10Gbps Ethernet is a version of Ethernet networking with a data rate of 10 billion bits per second. [A298(35:14-19)]

sold to banks, hospitals, government and other end users for use in their mission critical data centers. [A3757-58(¶¶ 2-3); A3746(¶ 4); A3768(¶ 4); A3730-31(¶ 6)]

Fibre Channel is a storage technology entirely distinct from Ethernet-based networking solutions. Fibre Channel requires a unique network topology (*i.e.*, the particular hardware, such as adapters, cables, and switches, on which the network operates). [A3736(¶ 23); A3721(¶ 13)] Fibre Channel provides distinct advantages over Ethernet protocols, most importantly extreme reliability, and customers who choose Fibre Channel are generally unwilling to change to other systems and could not do so without enormous expense and disruption.

[A3729(¶4); A3731-32(¶¶ 9-12); A3736(¶ 23); A3720-22(¶¶ 9-16); A5146(61:19-62:11)]

FCoE is a distinct Ethernet protocol that packages Fibre Channel information in a manner that allows it to be sent over special enhanced Ethernet hardware. [A3721(¶ 14)] Although FCoE has been implemented in only a small number of data centers, that number is growing and many customers now require FCoE capability when they purchase 10Gbps Ethernet adapters. [A3749(¶ 14); A3644-45(¶¶ 15-17)]

FCoE is not a replacement for Fibre Channel, however. Not only is it generally prohibitively expensive for existing data centers to convert from Fibre

Channel to FCoE, but also FCoE cannot extend across an entire network. [A3002-03(121:20-122:2); A3721-23(¶¶ 15-18)]

## **B. Emulex and the Products at Issue**

Three types of Emulex products have been enjoined:

- 1) BE2 and BE3 chips, which are used in converged network adapters (“CNA’s”) to implement both FCoE and other Ethernet protocols. [A533(83:15-17)] A converged network adapter is an adapter that implements more than one protocol (for example, Ethernet and FCoE). *Id.*
- 2) Lancer chips, which currently are sold as pure Fibre Channel host bus adapters (“HBA”) and do not support FCoE or any other Ethernet protocol.<sup>3</sup> [A3711(¶ 6); A5175(361:1-10)]
- 3) Emulex’s InSpeed Fibre Channel switches, which are pure Fibre Channel switches that are basic building blocks of storage networks. [A3720(¶ 9); A3722(¶ 17)]

The ’150 patent relates to a small piece of circuitry in the accused products that is not designed by Emulex. Instead, Emulex obtains this (as well as other parts) of the circuitry from large semiconductor companies. As the entire chip must be manufactured (fabricated) as an integrated circuit, Emulex is dependent on these suppliers to provide a redesigned chip, which is estimated to take at least 18 months. [A24; A3711-1315(¶¶7-15); A3806; *see also* A5188(235:18-236:5); A3792(¶ 8)]

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<sup>3</sup> In the future there may also be distinct CNA versions of Lancer sold that implement both Fibre Channel and Ethernet protocols.



**C. Broadcom**

Broadcom is a 20-year old company with \$6.8 billion in revenue in 2010.

[A2534]

It is undisputed that Broadcom is not in the pure Fibre Channel market and has never offered Fibre Channel products. [A15] For example, the '691 patent, which is directed to a particular type of Fibre Channel switch, was purchased by Broadcom from a bankrupt company. [A2907(133:16-134:10)] Broadcom admits that it has never practiced the '691 patent. [A326-27(146:11-20, 151:7-10)]

Although Broadcom practices the '150 patent, it did not release an FCoE compatible chip until 2011. [A2437(¶ 13); A3775(¶ 30)] To date, Broadcom has made limited inroads into the FCoE market as a result of its lack of experience with Fibre Channel, a prerequisite for FCoE success. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

**D. “Design Wins” Dictate Customer Adoption of the Relevant Products.**

Emulex's enjoined products are primarily supplied to Original Equipment Manufacturers (OEMs), who place them into large networking products and servers. Those OEMs, which include household names such as IBM, HP, Dell, and Cisco, market their products to corporate data centers that require reliability

and cannot tolerate any disruption in service. [A3757(¶¶ 2-3); A3746(¶ 4); A3768(¶ 4); A3730(¶ 6)]

Competition in both the Fibre Channel and Ethernet markets is based on “design wins.” [A13] Design competitions generally occur for each generation of processor used in a server. [A2439(¶¶ 20-22)] With respect to Intel microprocessors, for example, the most recent rounds of design competitions—for the “Westmere” and “Romley” processors—took place in 2009 and 2010, respectively. [A3343-44] The next round of design competitions—for the “Grantley” processor—will not take place until 2014. [A3755(¶ 34)]

Once an OEM selects a supplier’s product (a “design win”), that decision is essentially irreversible. As the district court acknowledged:

[T]he complexity of the OEM’s products and the extensive period necessary to develop and bring its products to market leave *little if any room for altering course once the winner of the design competition is chosen*. In essence, the successful supplier’s product is designed into the OEM’s product.

[A13 (emphasis added)] From the time of a design win, the OEMs generally invest years of effort and millions of dollars in testing, qualifying, and revising the system before the product is released. [A5847(¶ 7); A5849(¶ 12); A3747(¶ 7); A3750(¶ 15); A3737-39(¶¶ 25-32)8; A3769(¶¶ 5, 7); A3762-63(¶¶ 19-23)] And, if forced to

substitute another supplier's product, the OEM must then incur extensive time-consuming and costly redesign and qualification work.<sup>4</sup> [A23-26]

Any eventual replacement for an enjoined Emulex product that has already secured a design win is likely to come from Emulex<sup>5</sup> or Emulex competitors such as QLogic, not Broadcom. Broadcom has no alternatives for the enjoined Fibre Channel products. [A15; A3773(¶ 21); A5849(¶ 11); A5308(¶ 6); A5313-14(¶ 4)] And for the FCoE products, in most cases, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

**E. The District Court's Injunction Will Result in Substantial Public Harm Without Countervailing Benefit to Broadcom**

On April 3, the district court enjoined all of the products found to infringe the '691 and '150 patents. [A1-9] It based its findings of irreparable harm on

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<sup>4</sup> The district court acknowledged that the time it would take an OEM to come to market with alternative products varied. The court ultimately found that 18 months was a reasonable period to assume for this process. [A27]

<sup>5</sup> Emulex anticipates eventually releasing redesigned chips for Lancer and BE3—a process that is expected to take at least 18 months as noted by the district court. [A23-24]

Broadcom's alleged "actual and potential exclusion from a fair opportunity to compete for design wins." [A16] But the court made no findings that Broadcom could in fact have been successful in the past design competitions already won by Emulex. [A16-22] Nor did the court explain how an injunction would remedy any harm caused by past design wins. [*Id.*]

The district court's injunction is effective immediately except for a narrow sunset provision. Specifically, the sunset exclusion is limited to products that OEMs qualified for use in a specific customer product model and ordered in production quantities prior to October 11, 2011, in the case of the '150 patent and December 16, 2011, in the case of the '691 patent. [A3-4; A6-7; A26-29]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Additionally, sales to Emulex's distributor customers are categorically excluded from the sunset, despite the fact that distributors only sell qualified products for use in specific, previously-released OEM servers and storage solutions. [A5888; A5710(¶ 3-4); A5704-06(¶¶ 3-8); A570(¶ 9)] As a result, the distributors will be unable to satisfy the needs of their long-standing customers—customers who have no alternative options to replace those components with products from other sources. [REDACTED]

[REDACTED]

Moreover, even for products that are covered by the sunset, harm to the public will result. For example, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

## **F. The '150 Patent**

### **1. Background of the '150 Patent**

In modern digital communication systems, an analog data signal is sent from the transmitter to the receiver. Once received it needs to be converted into a digital signal, through a process called “sampling.” Sampling is the process of measuring the amplitude of the analog signal at precisely timed intervals in order to extract the data carried in the analog signal. To do so, the receiver needs a way to discern the proper rate at which to sample the analog signal and needs a means for generating a sampling signal having the appropriate frequency. In addition, when data is sent through cables over long distances, the incoming signal frequency can vary over time. To compensate for such changes, receiver circuits adjust the sampling signal to match the frequency and phase of the incoming data signal. [See A89(1:48-55); A92(8:25-45)] Circuits for aligning clocks and sampling data in this manner are known as “Clock/Data Recovery Circuits,” or “CDR” circuits.

The '150 patent claims a communication device that adjusts this sampling signal in a very specific manner in order to address a problem that may arise when multiple receiver circuits are placed in close proximity to each other. [A48-109] In particular, the oscillators used to adjust the timing of the sampling signal in each receiver may interfere with each other and “lock” to each other’s frequency rather than the frequency of that receiver’s incoming data signal. [See A89(1:37-41)]

To mitigate this risk, the '150 patent and the prior art propose adjusting the sampling rate without altering the frequency of the oscillator that generates the sampling signal. Instead of changing the oscillator *frequency*, the art continually adjusts the *phase* of the sampling signal forward or backward so that the sampling rate (*i.e.*, number of rising edges per unit time) matches the data rate.

[A100(23:15-41)] For a change in phase to cause the same ultimate result as a change in frequency, it is not enough to simply adjust the phase only one time; instead, the phase must be continually “rotated” at a specific rate—otherwise the sampling signal will fail to keep up with the desired sampling frequency. [*See id.*(23:17-55)]

Claim 8, the only asserted claim, recites a communications device with “multiple receive-lanes each configured to receive an associated one of the multiple serial data signals.” [A107(38:56-57)] Each receive lane, in turn, has a “data path” (a path for the analog data signal to move through the circuit so that it may be sampled and turned into digital data) and a phase interpolator to adjust the sampling signal to match the incoming data in the data path. [*Id.*(38:59-63)]

The phase interpolators by themselves do not know how to vary the phase of the sampling signal to match the incoming data. Consequently, claim 8 recites another structure called an “interpolator control module” or “ICM.” The ICM provides the control mechanism that varies the outputs of the phase interpolators in

order to achieve the desired “rate” of phase rotation. Claim 8 specifies the ICM as follows:

an interpolator control module coupled to each receive-lane, the interpolator control module being adapted to cause the phase interpolator in each receive-lane to *rotate* the interpolated phase of the sampling signal in the receive-lane *at a rate corresponding to a frequency offset between the sampling signal and the serial data signal* associated with the receive-lane *so as to reduce the frequency offset between the sampling signal and the serial data signal*.

[*Id.*(38:52-39:5) (emphasis added)] To infringe, the ICM must rotate the phase of the sampling signal at a rate that corresponds to the difference in frequency between the sampling signal and the data signal (the “frequency offset”). This frequency offset is defined and labeled in the patent as  $\Delta\omega$ , called “delta omega.” [A99(22:60-62); A100(23:3-5, 28-41)]

## 2. Relevant Prior Art

European Patent No. EP0909035B1 (“Pickering”) was the main prior art at trial. [A217] Pickering and the ’150 patent address the exact same problem—eliminating the “interference” in “communication devices” with multiple adjacent receivers where, as Pickering explains, it is important to “recover a corresponding clock signal at the receiver in order to demodulate the received signal.” [A218]

Pickering and the ’150 patent each solve this problem in exactly the same way: using phase interpolators that rotate the phase at a rate corresponding to the frequency offset as defined by the ’150 patent specification. In fact, it is



undisputed that Pickering teaches an interpolator control module that uses the control algorithm recited in claim 8 to control the rate of phase rotation to match the frequency of the incoming data signal. [*See, e.g.*, A220-21; A754(30:19-31:5)] There was no dispute in trial, or during post-trial motions, that Pickering taught the same control mechanism as the '150 patent. [A245]

### **3. Summary of Evidence Presented at Trial**

#### **a. *Non-Infringement***

In his testimony regarding infringement, Broadcom's expert, Dr. Stojanovic, identified a circuit element in each accused product that he called an ICM, but he gave no evidence or testimony about how any of those elements actually operate in the four accused circuits, much less that they are "adapted to cause" the specific operations required by claim 8. At no time did Dr. Stojanovic testify that the ICM in any accused product was adapted to cause phase rotation "at a rate corresponding to a frequency offset between the sampling signal and the serial data signal" as expressly required in claim 8.

With respect to the accused SOC442 device, Dr. Stojanovic claimed only that the circuit "tries to maintain frequency synchronization or match between the incoming data stream and the sampling that happens in the receiver. That's what this SOC 442 does." [A488(130:20-24); *see also id.*(129:10-24)] This testimony says nothing about *how* the circuit does that matching, or the *rate* at which the

alleged ICM causes the phase interpolator to rotate the phase of the sampling signal.

Regarding the accused Blade Engine 3 (“BE3”) and Lancer, Dr. Stojanovic simply referred back to his earlier, deficient testimony regarding the SOC442, even though these are completely different circuits, designed by a different semiconductor company than the SOC 442. [A491-92(144:12-145:3); A493(149:13-150:8)] For the accused Blade Engine 2 (“BE2”), designed by yet a third semiconductor company,<sup>6</sup> he did not even attempt to explain how the remainder of the ICM limitation was met. [A495]

Under cross-examination, Dr. Stojanovic admitted that he was not one of skill in the art during the relevant time period [A496(163:11-164:25)], and that he had not actually examined any chips, performed any testing, or had access to any of the register transfer level (RTL) source code for any of the accused products—the code that actually describes the internal operation of the accused ICM. [A497(166:8-19); A501(183:7-13); *see also* A478-79(92:13-93:6) (inventor Michael Le explaining importance of RTL code in understanding operation of device)]

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<sup>6</sup> SOC 442 is made Toshiba, BE3 and Lancer are made by LSI, and BE2 is made by Renesas. [A3711(¶5)]

In its response to Broadcom's case-in-chief, Emulex's expert, Dr. Borivoje Nikolic, disputed the entirety of the ICM limitation of claim 8. [A638(82:12-14) ("I am basically disputing that it practices that limitation on the claim that describes the operation of the interpolator control module.")] Dr. Nikolic explained that the limitations of claim 8 describe a specific algorithm or "mechanism" that "require[s] a particular operation of the interpolator control module." [A601(145:7-19)] Specifically, Dr. Nikolic testified that claim 8 requires that the interpolated phase of the sampling signal be rotated such that the "rate of rotation corresponds to a frequency offset between the sampling signal and the serial data signal." [*Id.*(145:7-13)] He showed that claim 8 uses the term "frequency offset" to describe the magnitude of the difference between two signals, and is defined by a formula given in the patent:  $\Delta\omega = \omega_s - \omega_d$  (the difference between the frequencies of the sampling signal and the data signal). [A602(149:4-12; A657-58(160:20-161:7)] Dr. Nikolic testified that the accused devices do not have an ICM that causes the phase of the sampling signal to be rotated at a rate that corresponds to the frequency offset as recited in claim 8. [A602(150:8-19); A603-04(154:1-158:10); A604(159:20-160:20)] Dr. Nikolic therefore testified that none of the accused products infringe claim 8. [A601(145:7-14); A603-604(155:14-158:10); A604(159:22-160:20); A638(82:10-14)]

Although Broadcom bore the burden of proof on infringement, Broadcom elected not to present any testimony in rebuttal to Dr. Nikolic on the subject of infringement. [A752(24:1-4)]

**b. *Invalidity***

Broadcom's expert Dr. Stojanovic conceded at trial that the prior art Pickering patent discloses the same algorithm as claim 8 of the '150 patent, the entirety of the interpolator control module element, and most of the other elements of claim 8. [A754(30:19-31:5)]

The only issue Broadcom raised at trial was the absence of any *explicit* discussion of a "data path" in Pickering. [A748(6:17-18); A754(30:19-31:5)] However, Dr. Stojanovic admitted that the Pickering patent describes a system for "demodulating," (*i.e.*, extracting data from) a received data signal [A755(33:15-25)], which necessarily includes sampling data. [*Id.*(35:2-11)] And he admitted that a data path is necessary to demodulate such a signal. [*Id.*] The Pickering patent expressly illustrates that its phase interpolators can be used in "Clock/**Data** Recovery Circuits." [See A233(Fig. 16)]

Dr. Nikolic explained that the concept of a "data path" was "implicit" in Pickering, and that there was "no purpose" to the circuit if it was not used to sample data. [A607(169:8-170:21)] Dr. Nikolic testified that anyone who had worked with Clock/Data Recovery circuits (a skill expressly required by the jury's

finding of the level of skill in the art) would have known that they are used in order to align clocks to recover data. [A607(170:16-21)] And if one of ordinary skill in the art were to draw upon their experience with Clock/Data Recovery circuits to make a CDR circuit using the clock recovery algorithm disclosed in Pickering, that circuit would necessarily include a data path. [*Id.*(170:6-15); A755(35:2-11)]

## **G. The '691 Patent**

### **1. Background of Patent and Asserted Claim**

The '691 patent [A112] generally involves a Fibre Channel network switch with multiple ports that can be attached to nodes, described “as servers, printers, disk arrays *etc.*” [A190(1:19-21)] The switch manages these nodes according to the specific Fibre Channel Arbitrated Loop (or FCAL) storage protocol, incorporated by reference into the patent. [A195(11:63-12:2)] According to the patent, “[u]nlike the switched fabric topology which has a centralized approach to routing, FCAL networks distribute the routing function to each loop port.” [A191(3:27-30)]

It is the “port” that is the focus of the '691 patent. First, the '691 patent emphasizes the problems with prior art “FL” ports. [A191(3:60-63, 4:4); *see also* A418(105:3-22)] The patent then proclaims that adding different ports, called “N\_ports,” to the switch is novel: “[f]undamentally, what the prior art is missing is

a switch which can couple multiple FCAL loops together with high concurrency and the speed of a fabric switch that uses N\_ports.” [A192(5:32-36)]

Claim 7—the sole asserted claim—focuses almost entirely on the “port”:

A packet switch for coupling a plurality of node loop (NL) nodes and/or Fibre Channel Arbitrated Loop network (FCAL nets) together to all concurrent data exchanges between a plurality of pairs comprised of one NL node or FCAL net and one other NL node or FCAL net, comprising:

a crossbar switch;

a protocol bus;

a **plurality of port circuits** each having an input and an output for connecting to an FCAL net coupled to one or more NL nodes and capable of implementing a Fibre Channel loop protocol, and each having a crossbar switch port coupled to said crossbar switch;

**circuitry in each said port circuit** and coupled to said protocol bus for maintaining a scoreboard table containing at least status information and a routing table containing data mapping destination addresses of NL nodes to port IDs; and

**wherein said port circuits function to** establish connections between themselves by using destination addresses in Open (OPN) primitives received from source nodes to search said routing table to determine the ID of a remote port coupled to the destination node having the destination address in the OPN and, using that port ID to search said scoreboard table to determine status of the remote port, and then exchanging messages with said remote port to cause it to arbitrate for and take control of its local FCAL net and establish a data path via a particular channel through said crossbar switch and use said channel to transmit primitives and data frames between said source node and said destination node.

[A214] Except for the first two limitations, the entirety of claim 7 is directed to the ports’ circuitry and functionality. And the lengthy “wherein” clause includes 14 active verbs, which define intelligent functions the switch ports must perform in order to “establish connections between themselves.”

## 2. Summary of Evidence at Trial

Broadcom did not assert that the accused Emulex InSpeed ports actually performed the claimed “port” functionality. Instead, Broadcom asserted that a different InSpeed component (the router)<sup>7</sup> includes the circuitry to perform the recited port functions, while the accused ports “initiate[]” the claimed functions and the router acts as an “intermediary.” [A41-42] Broadcom’s expert, Dr. Vahdat, had difficulty articulating this tortured theory of infringement. His discomfort with Broadcom’s theory was evident as he resorted to describing the accused products in the passive voice: (1) “the scoreboard *will get updated*” [A436(179:6-10)]; (2) “*we’re maintaining* this routing table” [*Id.*(179:14-17)]; (3) “*we would consult* the scoreboard table” [A438(185:13-14)]; (4) “the routing table *would give us* the information” [*Id.*(185:10)]; and (5) “*we’re now able to establish* a path through the crossbar switch.” [*Id.*(186:16-17)] On cross examination, Dr. Vahdat agreed that, in the accused products, it is the separate “router” component, not the ports, that perform functions recited in claim 7. [*See, e.g.*, A465(37:16-38:18; 39:5-20; 40:9-12)]

In response, Emulex offered evidence that the InSpeed ports did not have the required port circuitry nor did they initiate the required port functions. Emulex’s witnesses testified that the InSpeed ports cannot meet any of the limitations that

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<sup>7</sup> The “router” is a component of the switch, not another name for the switch.

claim 7 assigns to port circuitry—specifically walking through each of the seven functions recited in the wherein clause and explaining how the InSpeed ports cannot provide those functions—whether directly or via another component. [*See e.g.*, A663(183:19-184:13); A671(214:21-23); A693-95(44:17-45:3, 45:6-17, 47:13-48:10, 48:22-49:5, 49:12-21; 51:2-25)] Again, despite bearing the burden of proof on infringement, Broadcom did not present a rebuttal case.

### **SUMMARY OF ARGUMENT**

The district court’s injunction is based on two erroneous JMOLs of infringement. This is not an exceptional case in which Broadcom has proven infringement by evidence that the jury would not be at liberty to disbelieve and the only reasonable conclusion is in the movant's favor, as is required before JMOL can be granted in favor of the party with the burden of proof.

To the contrary, Broadcom provided no evidence to establish that Emulex’s products rotate the sampling signals “at a rate corresponding to a frequency offset between the sampling signal and the serial data signal” as the ’150 patent requires. Additionally, the district court’s conclusion that infringement had been proven as a matter of law was based on improperly resolving factual disputes between the parties’ experts, including discounting Emulex’s expert’s affirmative testimony that the accused products do not use the claimed mechanism, making inferences in



favor of the moving party, and ignoring that the jury would have been at liberty to disbelieve Broadcom's expert.

The district court's JMOL of infringement for the '691 patent was also erroneous. Broadcom did not establish that the enjoined products literally meet every claim limitation directed to "port circuits," and the district court's ruling ignored significant factual disputes in the record, wrongfully drew inferences in favor of the moving party, and improperly rejected wholesale the testimony of Emulex's expert.

The district court further erred in holding the '150 patent nonobvious. Clear and convincing evidence establishes that the '150 patent was obvious over the Pickering patent, which undisputedly discloses the claimed ICM control mechanism. The only limitation in the asserted claims not expressly disclosed in Pickering—a data path—would have been obvious to use with the Pickering algorithm as use of a data path both is necessary to "recover" data and was well-known to those of skill in the art as defined by the jury.

Finally, even if the district court's liability judgments are affirmed, the scope of the court's injunction was an abuse of discretion. Broadcom cannot establish irreparable harm for the '691 patent which is directed only at Fibre Channel products because Broadcom has never made any Fibre Channel products and can establish no direct or indirect competition with the accused products. The

injunction on the '150 patent is overbroad as Broadcom cannot establish irreparable harm from sales of the accused products that are Fibre Channel or for which there has already been a design win. Furthermore, the district court failed to give proper weight to the significant irreparable harm to third parties created by the injunction.

## **ARGUMENT**

### **I. STANDARD OF REVIEW**

This Court reviews a grant of JMOL *de novo*, by reapplying the standard applicable to the district court. *See Nobelpharma AB v. Implant Innovations*, 141 F.3d 1059, 1064 (Fed. Cir. 1998). The Court's review of a JMOL decision is governed by the law of the pertinent regional circuit, here the Ninth Circuit. *See Siemens Med. Solutions USA, Inc. v. Saint-Gobain Ceramics & Plastics, Inc.*, 637 F.3d 1269, 1277 (Fed. Cir. 2011).

In reviewing a judgment of obviousness, the district court's ultimate determination of obviousness is reviewed *de novo* and the underlying factual inquiries are reviewed for clear error. *See Power-One, Inc. v. Artesyn Techs., Inc.*, 599 F.3d 1343, 1351 (Fed. Cir. 2010).

This Court reviews the decision to grant an injunction, as well as the scope of that injunction, for abuse of discretion. *See i4i Ltd. P'ship v. Microsoft Corp.*, 598 F.3d 831, 861 (Fed. Cir. 2010).

## II. THE DISTRICT COURT ERRED IN GRANTING JMOL OF INFRINGEMENT OF THE '150 PATENT

Broadcom has not met the high burden necessary to grant JMOL in favor of the moving party. Specifically, Broadcom failed to introduce evidence establishing infringement of the entire asserted claim, the trial record included disputed expert testimony, and a reasonable jury could have found no infringement based on evidence regarding the operation of the accused devices.

### A. Legal Standard for JMOL

This case does not present a garden-variety JMOL, in which judgment is granted against the party with the burden of proof. To the contrary, this case represents the situation characterized as “extreme” by the Federal Circuit and “exceptional” by the Ninth Circuit. *See Mentor H/S, Inc. v. Med. Device Alliance, Inc.*, 244 F.3d 1365, 1375 (Fed. Cir. 2001) (“Courts grant JMOL for the party bearing the burden of proof *only in extreme* cases, when the party bearing the burden of proof has established its case by evidence that the jury would not be at liberty to disbelieve and the only reasonable conclusion is in its favor.”) (emphasis added); *United Cal. Bank v. THC Fin. Corp.*, 557 F.2d 1351, 1356 (9th Cir. 1977) (“A directed verdict for the plaintiff presents an *exceptional case* . . . .”) (emphasis added, citation omitted).

The Court has set forth a two-part test for JMOL in favor of a party bearing the burden of proof: “JMOL in favor of a party bearing the burden of proof may be

granted only where (1) the movant has established its case by evidence that the jury would not be at liberty to disbelieve and (2) the only reasonable conclusion is in the movant's favor." *See Nobelpharma*, 141 F.3d at 1065 (internal citations omitted); *see also Mentor H/S*, 244 F.3d at 1375.

**B. JMOL of Infringement Was Reversible Error Because The Parties Disputed Whether Rotation in the Accused Products Occurs at the "Rate" Specified in Claim 8.**

Broadcom failed to introduce any evidence to show that the accused ICMs are adapted to "rotate" the interpolated phase of the sampling signals "*at a rate corresponding to a frequency offset between the sampling signal and the serial data signal associated with the receive-lane*," a requirement of claim 8. [See A107-08(38:64-39:5)] Nevertheless, the district court overlooked this omission and erroneously found that the accused devices "must" infringe as a matter of law. [A36-39] The district court improperly *inferred* from Dr. Stojanovic's testimony that the accused devices "must" meet this limitation. [A37-39] Fundamentally, it was not the district court's role to make such an inference—that is the exclusive province of the jury, and reversal of JMOL is required for this reason alone. Moreover, the district court went further by resolving a factual dispute between the experts, since Emulex's expert affirmatively testified that the accused products do not use the mechanism described by the entirety of the last element of claim 8. For this reason as well, the district court's JMOL of infringement must be reversed.

Broadcom provided very limited proof at trial regarding the specific structure of the ICM. For example, Dr. Stojanovic pointed to an SOC442 schematic to identify a circuit element that he called an ICM. [A488(129:10-24)] He never stated, however, that this accused ICM was adapted to cause a phase interpolator in each lane to rotate the phase of the sampling signal “at a rate corresponding to a frequency offset between the sampling signal and the serial data signal associated with the receive-lane,” as the claim requires. [A107-08(38:64-39:5)]<sup>8</sup> And he never said that such functionality was inherently part of any ICM. In fact, Dr. Stojanovic made only one statement regarding the internal operation of the SOC442 ICM:

The reason is that the interpolator control module tries to maintain frequency synchronization or match between the incoming data stream and the sampling that happens in the receiver. That’s what this SOC 442 does.

[A488(130:20-24)] This conclusory and unsupported statement failed to fulfill Broadcom’s infringement burden. First, it says nothing about *how* the ICM allegedly attempts to maintain frequency synchronization. Second, this conclusory statement is entirely devoid of any evidentiary support—Dr. Stojanovic cited nothing to show how the SOC442 ICM allegedly “tries to maintain frequency

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<sup>8</sup> Instead, Dr. Stojanovic gave a lengthy explanation regarding “full-rate and half-rate circuits,” but his discussion did not address the actual limitation of claim 8, and was not tied to any of the accused products. [See A488-90(131:9-138:18)]

synchronization.” This Court has repeatedly cautioned that unsupported expert testimony cannot be used to defeat a motion for summary judgment of ***no infringement***. See, e.g., *Intellectual Sci. & Tech., Inc. v. Sony Elecs., Inc.*, 589 F.3d 1179, 1184 (Fed. Cir. 2009); *Kim v. ConAgra Foods, Inc.*, 465 F.3d 1312, 1320 (Fed. Cir. 2006). Here, the district court flipped this admonition on its head, actually using unsupported expert testimony as a basis to find ***infringement*** as a matter of law.

The district court’s recitation of the evidence on which it based JMOL is similarly deficient. [A37-39] In addition to the conclusory statement regarding the SOC442 quoted above, the district court simply recited Dr. Stojanovic’s description of the ***problem*** addressed by clock recovery and then underlined Dr. Stojanovic’s statement: “The job of the interpolator control module is to correct for this.” [A38] From that generic statement of the problem, the district court concluded that “[i]nherent in Dr. Stojanovic’s use of the term ICM is that the device will create a shift in the signal at a rate so as to reduce the offset.” (*Id.* (emphasis added)). But this alleged “inherency” was an inference that the district court drew by itself—there was no testimony in the record addressing what was “inherent” in Dr. Stojanovic’s testimony.

Nor was there any explanation by the district court (or in the trial record) to show why such inherency would also address the “at a rate” portion of the claim

element, which requires not just that the offset be reduced but also that the rotation occurs at a specific *rate*. The district court's leap from Dr. Stojanovic's actual testimony to the words of the entire claim is contrary to this Court's precedent, which requires "evidence that the jury would not be at liberty to disbelieve" before JMOL of infringement may be granted. *See Mentor H/S*, 244 F.3d at 1375.

Dr. Stojanovic's testimony regarding the other accused products was even more conclusory. For the accused Blade Engine 3 ("BE3") and Lancer, he simply referred back to his earlier, deficient testimony regarding the SOC442, even though these circuits have completely different designs and are provided by different manufacturers. [A491-92(144:12-145:3, A493(149:13-150:8); *supra* n.6] For the accused Blade Engine 2 ("BE2"), he did not even attempt to explain how the remainder of the ICM limitation was met. [A495(158:1-17)]

In contrast, Dr. Nikolic explained that the term "frequency offset" used in claim 8 describes the magnitude of the difference between two signals and is defined by a specific formula given in the patent:  $\Delta\omega = \omega_s - \omega_d$  (the difference between the frequencies of the sampling signal and the data signal). [A100(23:3-5); A69(Fig. 18); A602(149:4-12); A657(160:20-161:7)] This is plain from the language of claim 8, which requires that the interpolated phase of the sampling signal be rotated "at a rate corresponding to the *frequency offset between the*

*sampling signal and the serial data signal.*”<sup>9</sup> [A107-08(38:64-39:5) (emphasis added)] Dr. Nikolic then testified that this mechanism is not implemented in the accused devices. [A602(150:8-19); A603-04(154:1-158:10, 159:20-160:20)]

As Dr. Nikolic explained, the accused circuits are not adapted to rotate the phase interpolators at a rate corresponding to  $\Delta\omega = \omega_s - \omega_d$ , as claim 8 recites, but instead are adapted to rotate at a rate that corresponds to  $\omega_s - \frac{1}{2}\omega_d$ . [A603(154:7-13)] Because the mechanism recited in claim 8 is not implemented in any of the accused products, Dr. Nikolic testified that they do not infringe. [A601(145:14)]<sup>10</sup>

Just as the district court improperly found “inherent” linkage in Dr. Stojanovic’s testimony, it also improperly “inferred” infringement when it concluded “that for the device to work the shift **must be** at a rate corresponding to the offset,” [A37-39 (emphasis added)] despite Dr. Nikolic’s specific testimony that in the accused devices the ICM’s do not operate in this manner. [A602(150:8-19); A603-4(155:12-158:10, 159:20-160:20)] Because the testimony of Dr. Stojanovic was in conflict with Dr. Nikolic’s testimony, it was improper for the district court to grant JMOL in favor of Broadcom.

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<sup>9</sup> Broadcom was limited by pre-trial motion to literal infringement only; thus Broadcom’s burden is to show that this portion of the claim is met literally. [A18-63]

<sup>10</sup> Indeed, if one were to rotate the phase interpolators in the accused circuits at a rate corresponding to  $\Delta\omega$ ,  $\omega_s$  would never match  $\frac{1}{2}\omega_d$ , as necessary to make the accused products work.



**C. The District Court’s Grant of JMOL of Infringement on the ’150 Patent Improperly Usurped the Fact-Finding Role of the Jury, Which Would Have Been Free To Disbelieve Dr. Stojanovic.**

Here, a reasonable jury had many reasons it could have found Dr.

Stojanovic’s limited testimony not credible or entitled to little weight.

First, Dr. Stojanovic admitted that he did not even know how the accused ICMs are in fact implemented in the accused products. [A497(166:4-167:9); A501(183:7-13); *see also* A478-79(92:13-93:6)] Second, Dr. Stojanovic admitted he was not a skilled artisan during the relevant time period. [A496(164:11-13)] Third, he did not have the schematics for the accused BE2 chip. [A493(151:6-16); *see* A393-97(6:18-22:13)] Fourth, he did not show the jury any support for his claim that the BE2 infringed and could only show the jury a black box labeled “CDR” to support each claim limitation. [A499(174:4-8)] Fifth, he relied on schematics for the BE3 from which the operation of the alleged ICM could not be discerned. [A498(169:19-170:7)] Sixth, he relied on the PCI Express portion of the circuitry for the BE2, rather than the accused Ethernet portion. [A499(173:10-17)] And, finally, Dr. Stojanovic admitted that he did not examine any actual chips, did not perform any testing, and did not have access to any RTL code [A497(166:8-19, A501(183:7-13)] despite Broadcom’s own named inventor testifying that RTL code was necessary to understand the internal operation of these circuits [A478-79(92:13-93:6)].

Any of these shortcomings in Dr. Stojanovic's analysis could have led a reasonable juror to conclude that Dr. Stojanovic's testimony was unreliable and, therefore, that Broadcom had not met its burden. *See Nobelpharma*, 141 F.3d at 1065. Judgment as a matter of law was improper for at least this reason, let alone in light of Dr. Stojanovic's silence on the "at a rate" portion of claim 8 and the contrary testimony from Dr. Nikolic.

### **III. THE '150 PATENT IS OBVIOUS OVER A SINGLE REFERENCE**

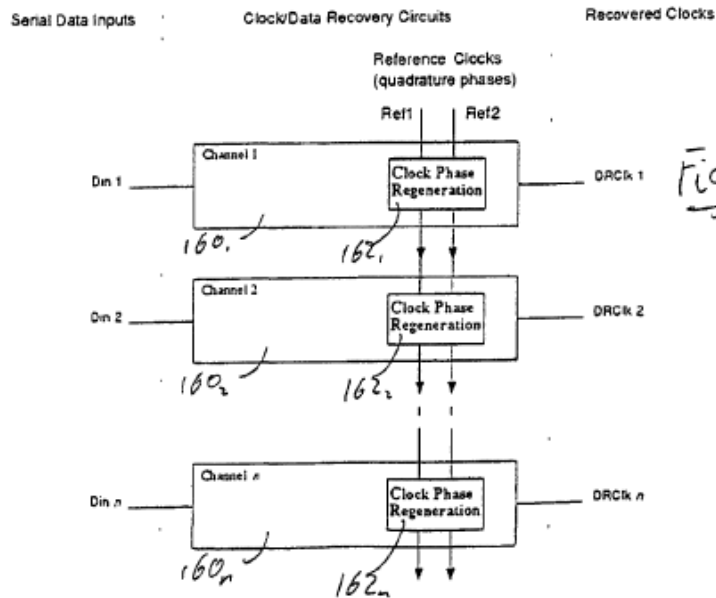
The dispute between the parties with respect to obviousness is extremely narrow: both parties agree that Pickering discloses all of the elements of claim 8, except it does not *explicitly* show a depiction of using its clock recovery circuit to sample data. For the purposes of obviousness, however, such an explicit depiction is not required. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 419 (2007). Here, where the jury found the level of skill to include post-graduate experience in implementing clock-data recovery systems, where Pickering labeled his central circuits as "Clock/Data Recovery" circuits and expressly taught that his invention was for the purpose of "demodulating" a data signal, and where the undisputed testimony established that those of skill would recognize that the only reason for Pickering to have solved the interference problem in clock recovery was to use the recovered clock to sample data, the evidence of obviousness was necessarily clear and convincing.

### A. Legal Standards for Obviousness

A patent is invalid “if the differences between it and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the pertinent art.” *Tokai Corp. v. Easton Enters., Inc.*, 632 F.3d 1358, 1366 (Fed. Cir. 2011) (citing 35 U.S.C. § 103). To establish obviousness the court “need not seek out precise teachings directed to the challenged claim’s specific subject matter, for a court can consider the inferences and creative steps a person of ordinary skill in the art would employ.” *KSR*, 550 U.S. at 401.

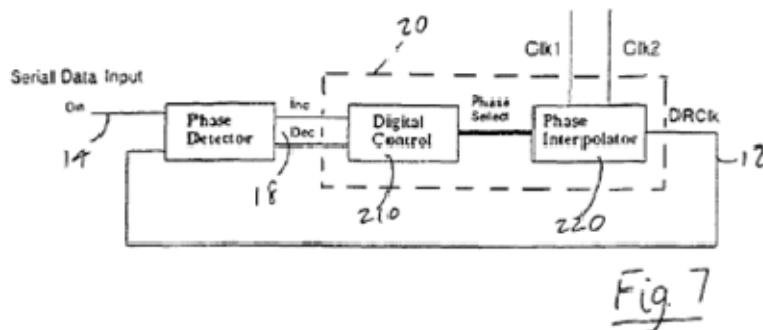
### B. Pickering Solves the Same Problem as the ’150 Patent in the Same Way

The Pickering patent explicitly addresses “communication devices,” where it is important to “recover a corresponding clock signal at the receiver *in order to demodulate the received signal*.” [A218 (emphasis added)] At trial, Dr. Stojanovic agreed that “demodulat[ing]” a data signal means recovering the data from the signal. [A755(35:2-11)] Pickering and the ’150 patent each solve this problem in exactly the same way: using phase interpolators that rotate the phase at a rate corresponding to the frequency offset (the same frequency offset defined by the ’150 patent specification). As shown in Figure 16 of Pickering, below, Pickering disclosed a system that is configured to receive multiple serial data signals as inputs, shown as  $D_{in1}$ ,  $D_{in2}$ , and  $D_{inn}$ .



[A233]

In addition, as shown in Figure 7, each receive lane in Pickering includes a phase interpolator. [A230] Each lane also includes a “digital logic block 210 which generates a control word” to control the phase interpolator, *i.e.*, an interpolator control module. [A221(¶ 40)]



[A230]

There was no dispute at trial that the ICM in Pickering is “adapted to cause the phase interpolator in each receive lane to rotate the interpolated phase” in the manner claimed in the ’150 patent. [A609(178:9-180:13); A754(30:15-31:5)]

There is also no dispute that Pickering discloses a master timing generator, multiple receive-lanes, phase interpolators, and an interpolator control module, each precisely configured in the manner recited in claim 8. [A754(30:15-31:5); A605-06(164:20-168:23); A608-09(176:4-180:13); A754(30:15-31:5)]

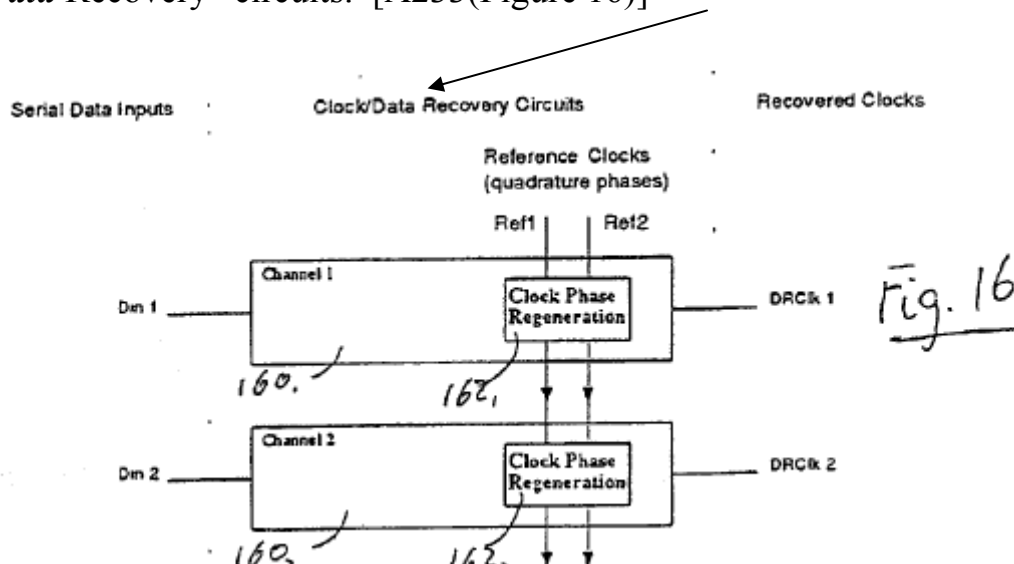
**C. The Concept of Sampling and Quantizing Data from a Data Path Is Obvious in View of Pickering**

The only dispute between the parties is whether Pickering renders obvious the concept of using its clock recovery functionality (the same functionality as the ’150 patent) to sample and quantize data from a data path. Overwhelming evidence demonstrates that it does. The district court’s holding to the contrary is based on its clearly erroneous finding that Pickering is concerned only with recovering clock signals not with recovering data, a finding which cannot be reconciled with the evidence. [A246]

First, the Pickering reference states that the very reason “it is important to recover a corresponding clock signal [is] in order to demodulate the received signal.” [A13044] There is no dispute that “demodulation” is the act of extracting information from a signal (*i.e.*, sampling and quantizing the data), and Dr.

Stojanovic admitted that a data path is necessary in order to demodulate data. [A755(33:15-35:11)] Moreover, as Dr. Nikolic testified, there is simply “no purpose” to the Pickering circuit except to sample data, precisely as the patent claims of the '150 patent. [A607(169:8-170:21)]

Second, Pickering expressly labels the central block of figure 16 as “Clock/**Data** Recovery” circuits. [A233(Figure 16)]



This point alone illustrates a fundamental error in the district court’s analysis. The trial record established that when people of skill in the art refer to a “CDR” or “Clock/Data Recovery” circuit, they mean a circuit that both recovers the clock and the data. [A606-07(168:24-170:21)] Thus, the specific label used by Pickering in Figure 16—“Clock/**Data** Recovery” circuit—cannot be reconciled with the Court’s conclusion that the reference is concerned only with clock regeneration. Indeed, one of Dr. Stojanovic’s own patents makes clear how this

terminology is used in the relevant art: “CDR techniques are used to recover ***both clock and data*** signals from an incoming data signal.” [A754-55(31:23-33:3)]

Third, the jury found one of ordinary skill in the art possessed several years of post-graduate experience actually implementing Clock/Data Recovery circuits. [A242-43] A person with this skill level would certainly know how to sample data. [A607(170:6-21)]

Thus, the evidence plainly establishes that a person of skill in the art would have had a reason to use a data path with the algorithm disclosed in Pickering. *See KSR*, 550 U.S. at 418. Indeed, even the district court expressly acknowledged that there was “some evidence” that a data path was ***implicit*** in Pickering, which is an even higher standard than necessary to show obviousness. [See A246] And the evidence establishes that a skilled artisan would have had a “resoundingly ‘reasonable expectation of success’ in deriving the claimed invention in light of the teachings of the prior art.” *In re Kubin*, 561 F.3d 1351, 1360 (Fed. Cir. 2009); *see also Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007) (finding patent obvious where its “reader” component was “well-known in the art at the time of the invention” and there was “no evidence” that adding such a component to a prior art system was “uniquely challenging or difficult for one of ordinary skill in the art” or “represented an unobvious step over the prior art”). Given this overwhelming evidence, including express disclosures in Pickering to

use its clock recovery functionality in a “Clock/**Data** Recovery” circuit, the district court erred in holding the ’150 patent non-obvious.

**D. The District Court Gave Excessive Weight to Secondary Considerations Where There Was No Nexus Between the Asserted Secondary Considerations and the ’150 Patent**

While the fact-finder must also consider the existence of objective indicia of non-obviousness, this Court has also recently cautioned: “To be sure, courts must exercise care in assessing proffered evidence of objective considerations, giving such evidence weight only where the objective indicia are “attributable to the inventive characteristics of the discovery as claimed in the patent.” *In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig.*, 676 F.3d 1063, 1079 n.6 (Fed. Cir. 2012); *see also In re Kao*, 639 F.3d 1057, 1074 (Fed. Cir. 2011); *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1312-13 (Fed. Cir. 2006).

Here, the district court further clearly erred by giving excessive weight to secondary considerations of non-obviousness when Broadcom did not establish the required “nexus between the merits of the claimed invention and evidence of secondary considerations.” *See Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1327 (Fed. Cir. 2008) (reversing portion of district court’s obviousness ruling on these grounds). Even if Broadcom had shown a nexus, the relationship of each of Broadcom’s alleged secondary factors to asserted claim 8 is “simply too attenuated” to overcome the strong showing of obviousness. *See id.*



The district court erred in giving the jury's finding of "commercial success" excessive weight [A243] given that Broadcom claimed the same commercial products embodied both the '150 patent and three additional patents asserted against Emulex. [A752(21:1-22:5); A379(170:18-20, 171:10-12, 171:15-17)] The trial record is simply devoid of any evidence showing that the claimed commercial success is attributable to the "inventive characteristics" of the '150 patent—particularly since Broadcom went out of its way to emphasize that these three other patents were much more important than the '150 patent. [A764(71:5-11); A767(83:16-21); A768(87:22-88:16); A770(93:8-24)]

The district court also erred in giving any weight to "long-felt need" for claim 8 of the '150 patent because the problems that Dr. Stojanovic asserted established "long-felt, but unsolved, need for" the claimed invention had already been identified and solved by the Pickering prior art. *See Ormco*, 463 F.3d at 1311-12 (finding no nexus where secondary factor was due to claimed elements that were available in the prior art); *see also In re Kao*, 639 F.3d at 1068.

The court also incorrectly gave weight to Dr. Stojanovic's testimony regarding "unsuccessful previous attempts," [A244] since Broadcom admitted that it did not present evidence on this factor [A785(154:15-24)], and the testimony regarding Broadcom's own failures does not suggest a "failure of others," only a failure by Broadcom. [A243; A473(69:24-70:71:16); A751(19:20-20:25)]

The court further erred in giving weight to testimony on “the selection of a peer-reviewed paper on the ’150 invention” as showing “acceptance by others of the claimed invention,” [A244] since the paper itself was never received in evidence, (*see id.* at n.5), as required in order to establish the necessary nexus. *See Muniauction*, 532 F.3d at 1328; *Ormco*, 463 F.3d at 1311-12.

In sum, none of the alleged secondary considerations were ever specifically tied to novel features claimed in the ’150 patent. In fact, the testimony of the inventor showed the opposite. Dr. Le testified specifically that the “hard part” of the invention was the control algorithm for the ICM—the same algorithm that Broadcom concedes is expressly taught in Pickering. [A481(102:9-16)] As to the data path that Broadcom asserts is missing from the prior art, Dr. Lee agreed that the “data path” described in the ’150 patent is simply the path “from the input, through the equalizers, and to the output” of the circuit [(A477(86:8-10)], something necessarily present in any communications device such as an Ethernet adapter. [See A474(75:5-14)]

Finally, even if Broadcom had established a nexus between the secondary factors and the inventive features of the ’150 patent, such secondary considerations will not override a strong showing of obviousness, especially when the inventions represent no more than “the predictable use of prior art elements according to their established functions.” *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1246 (Fed. Cir.

2010), *cert. denied* 131 S. Ct. 1531 (2011); *see also Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1333 (Fed. Cir. 2009) (“[A]s we have often held, evidence of secondary considerations does not always overcome a strong prima facie showing of obviousness”); *Leapfrog Enters.*, 485 F.3d at 1162 (affirming that “substantial evidence of commercial success, praise, and long-felt need” was “inadequate to overcome a final conclusion that claim 25 would have been obvious”); *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1372 (Fed. Cir. 2007) (“Here, the record establishes such a strong case of obviousness that Pfizer’s alleged unexpectedly superior results are ultimately insufficient”); *Muniauction*, 532 F.3d at 1328. For these reasons, the district court erred in finding the ’150 patent non-obvious over Pickering.

#### **IV. THE DISTRICT COURT ERRED IN GRANTING JMOL OF INFRINGEMENT OF THE ’691 PATENT**

Almost all of claim 7 is directed to the circuitry and functionality of a “port.” Nonetheless, the district court based its literal infringement judgment on its *factual finding* that all of the recited functions are performed “by Emulex’s InSpeed products . . . through the intermediary of the router.” [A42] This determination improperly ignored rampant factual disputes in the record about whether the router did or did not operate as an intermediary for the ports. To reach its JMOL, the district court erroneously credited the plaintiff’s expert’s testimony while wholly

rejecting the defendant's expert's testimony, and wrongfully drew inferences in favor of the moving party with the burden of proof on infringement.

**A. Emulex's Evidence Mandated Submission of the Factual Issues to the Jury.**

As an initial matter, Emulex presented both fact and expert testimony establishing that the InSpeed ports cannot perform the recited function—whether directly or through an “intermediary.” On this basis alone, the district court could not properly have granted JMOL of infringement—this testimony more than met the threshold from which a reasonable jury could have found no infringement. For example, Emulex's witnesses testified that none of the claimed functions can be performed by the InSpeed ports—whether directly or via an “intermediary”:

- (1) maintaining a scoreboard table;
- (2) searching the scoreboard table;
- (3) maintaining a routing table;
- (4) searching the routing table;
- (5) establishing connections between themselves;
- (6) exchanging messages with a remote port causing the remote port to arbitrate for control; and
- (7) exchanging messages with a remote port to cause the remote port to establish a data path through the crossbar switch.

[*See, e.g.*, A663(183:19-184:13); A671(214:21-23); A693-95(44:16-45:3, 45:6-17, 47:13-48:10, 48:22-49:5, 49:12-21, 51:2-25)] In addition, Emulex engineer Greg Warren testified that the separate router component—instead of being some “intermediary” utilized by the port—is instead the “brains” of the InSpeed switch

that is responsible for making all decisions related to establishing connections. [A662(180:16-20)]. In fact, Mr. Warren testified that the InSpeed router component—to the exclusion of all other InSpeed components—is the only component that can determine if, when, and how a connection can be made. [See A663(181:14-19); *see also* A465(39:5-20, 40:9-12)]

Against this trial record, and with the burden of proof resting solely with Broadcom, the district court’s JMOL cannot be sustained.

**B. The District Court’s JMOL Improperly Relied upon Numerous Disputed Conclusions of Fact**

The district court’s JMOL order cannot be sustained without resolving a number of factual disputes that should have been left for the jury. For example, the district court concluded that “the operative signals are generated by the ports,” when in fact Emulex witnesses repeatedly testified that the supposed “operative signal”—a connection request called an OPN message—is generated by an external device (such as a server), *not* the port (or any other component in the switch for that matter). [See, e.g., A671(215:9-14, 216:1-6)] And, while the court found that InSpeed ports “initiate” all of the recited functions, the trial evidence showed that the InSpeed ports had no way to send commands to the router or other switch components. [See A663(182:12-20, 183:5-8)] Indeed, Emulex provided

testimony of the exact opposite, *i.e.*, that it is the InSpeed router that commands the ports to go into a connection. [A671(216:13-18)]

Moreover, there was a factual dispute over whether the InSpeed ports—through the supposed intermediary of the router—*maintain* “a scoreboard table containing at least status information” as required by the fourth limitation of claim 7. This scoreboard table requirement is in addition to a separate requirement in the fourth limitation that requires port circuitry to also maintain a “routing table,” which serves a different role than the scoreboard table in the claimed switch. With respect to the accused scoreboard table (a status table in the InSpeed switch), Emulex engineer, Mr. Warren, testified that the InSpeed ports have no access to the table in the InSpeed router; in fact, the ports don’t even know this table exists. [A663(184:6-13)] Likewise, Emulex witnesses confirmed that the InSpeed router—not a port—solely creates and maintains all of the status information that is used to populate the accused scoreboard table (which is stored inside the router). [See A693-94(44:21-45:20); A663(181:11-17)].

The district court simply rejected all of Emulex’s testimony to conclude that the InSpeed “ports communicate through the router to populate the tables.” The district court justified its fact-finding exercise regarding the “maintaining” claim

requirements by concluding that Emulex's expert, Mr. Warden, "gave it all back" through the following testimony on cross-examination:<sup>11</sup>

Q: And the information that goes into that table, *the routing table*, again comes from the ports; correct?

A: Again, not directly or exactly. But in your manner of speaking, I think I understand what you're saying, yes.

[A44 (quoting A705(92:14-17) (emphasis added)] But this quoted testimony expressly relates to maintaining the separately claimed "routing table," *not* the "scoreboard table." As such, even to the extent that Mr. Warden "gave it all back" on the routing table requirement (which he did not), his testimony on cross-examination did nothing to weaken his direct testimony on the separate scoreboard table requirement.

Moreover, the court's conclusion that the "ports communicate through the router to populate the tables" ignores repeated testimony by Mr. Warden, even on cross-examination, that no such thing occurs for the scoreboard table.

[A705(89:12-90:4)] Indeed, Mr. Warden was asked about this exact finding on cross examination: "Q: If the ports never communicated with the router, the scoreboard table would be empty; isn't that right? A: *No.*" [*Id.*(89:20-22)] And

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<sup>11</sup> The court further cited testimony by Mr. Warden that generically agreed that the ports "start the process." [A43-44] But this generic statement is surrounded by testimony regarding *searching* the claimed tables, not *maintaining* the tables. [A706(95:3-97:4)].

Mr. Warden expressly contradicted the court’s conclusion when he testified that “The *router* makes the connections itself. *As it makes connections, it puts that status into its own table. So the ports don’t actually send any message that says I am now busy, put this in a table, or update the table for me. Nothing like that occurs.*” [A705(89:25-90:4)] Contrary to the district court’s finding that Mr. Warden “gave it all back,” Emulex’s consistent testimony proves the absence of the required “maintaining the scoreboard table” element of claim 7 and directly supports non-infringement even under the court’s claim construction.

Finally, the notion that a district court, in the context of JMOL, can decide that a witness “gave it all back”—in the absence of an express, unambiguous recantation on the specific claim requirement being analyzed—fundamentally usurps the role of the jury. It is the jury, not the district court, that is charged with assessing the weight to be given allegedly conflicting testimony. *See E.E.O.C. v. Go Daddy Software, Inc.*, 581 F.3d 951, 961 (9th Cir. 2009) (“[I]n entertaining a motion for judgment as a matter of law, the court . . . may not make credibility determinations or weigh the evidence.” (quoting *Reeves v. Sanderson Plumbing Prods., Inc.*, 530 U.S. 133, 150 (2000))).



**C. The District Court Improperly Resolved Credibility Determinations in the Movant's Favor**

The district court further erred with respect to the competing experts when it improperly substituted its judgment for the jury's regarding the weight to give Emulex's expert. The court justified resolving all factual disputes in Broadcom's favor by determining that Emulex's expert opinion "carries no weight"—a credibility determination precluded by Federal and Ninth Circuit law. *See Bard Peripheral Vascular, Inc. v. W.L. Gore & Assocs., Inc.*, 670 F.3d 1171, 1178-79 (Fed. Cir. 2012) (refusing to "weigh the evidence or assess the credibility of witnesses" while reviewing a post-trial judgment as a matter of law) (quoting *Landes Constr. Co., Inc. v. Royal Bank of Can.*, 833 F.2d 1365, 1371 (9th Cir. 1987)).

The district court's decision to make credibility determinations was especially significant here because it was far more likely that a jury would discredit Broadcom's expert than Emulex's. For example, even though Broadcom's expert acknowledged that the '691 Fibre Channel patent involved "low-level operations of fibre channel arbitrated loop," [A450(236:10-14)] Dr. Vahdat was tendered only as an expert in the generic field of network and storage. [*Id.*(233:19-234:21)] Then, on cross examination, Dr. Vahdat admitted that he had little specific experience with Fibre Channel. [*See, e.g.*, A450-51(236:15-238:19); A680(250:21-252:1)] Without Fibre Channel experience, Dr. Vahdat made a

significant error in his explanation to the jury of the most basic Fibre Channel operations (sending an “OPN” connection request). [See A680(250:21-252:1)] In other words, the jury had every reason to give little or no weight to Dr. Vahdat.

In stark contrast to Dr. Vahdat, Emulex’s expert Gary Warden was tendered—without objection—as an expert in the specific field of Fibre Channel protocols. [A679(248:7-12)] Mr. Warden’s expertise was established by his testimony that he had:

- performed Fibre Channel consulting for decades across commercial and military projects
- was a contributing author to the Fibre Channel protocols referenced in the ’691 patent
- taught thousands of students the Fibre Channel protocol

[See, e.g., A677-79(240:7-248:13)] As such, a reasonable jury could, and likely would, have given greater weight—not “no weight”—to Mr. Warden’s testimony.

The trial record in this case is riddled with too many factual disputes and credibility determinations to meet the requirements for a JMOL of infringement—Broadcom did not come close to presenting a case by “evidence that the jury would not be at liberty to disbelieve,” *Nobelpharma*, 141 F.3d at 1065, and the JMOL of infringement must therefore be reversed.

## **V. THE SCOPE OF THE DISTRICT COURT'S INJUNCTION WAS AN ABUSE OF DISCRETION**

The district court failed to properly apply *eBay*'s four factor test for an injunction. Rather, its injunction was based on clearly erroneous factual findings that misconstrued the potential injury to Broadcom and failed to take adequate consideration of third party harms.

### **A. Legal Standards for an Injunction**

A patentee is not automatically entitled to an injunction upon a finding of liability. *See Innogenetics, N.V. v. Abbott Labs.*, 512 F.3d 1363, 1379 (Fed. Cir. 2008). Rather, as the Supreme Court emphasized in *eBay*, before an injunction can properly issue, “[t]he plaintiff has the burden of showing that (1) it has suffered an irreparable injury; (2) remedies available at law are inadequate to compensate for that injury; (3) considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) the public interest would not be ‘disserved’ by a permanent injunction.” *i4i Ltd. P’ship*, 598 F.3d at 861 (citing *eBay Inc. v. MercExchange, LLC*, 547 U.S. 388, 391 (2006)). The district court abuses its discretion when it makes “a clear error of judgment in weighing relevant factors or exercise[s] its discretion based upon an error of law or clearly erroneous factual findings.” *Innogenetics*, 512 F.3d at 1379.

As this Court recently explained, to prove irreparable harm, “it is necessary to show that the infringement caused harm in the first place,” *i.e.*, that there is

“some causal nexus” between the infringement and the alleged harm. *Apple, Inc. v. Samsung Elecs. Co.*, No. 2012-1105, \_\_\_F.3d \_\_\_, 2012 WL 1662048 at \*7 (Fed. Cir. May 14, 2012). Thus, “irreparable harm cannot be shown if sales would be lost regardless of the infringing conduct.” *Id.* \*8. Moreover, “[a] mere showing that [the patentee] might lose some insubstantial market share as a result of [the defendant’s] infringement is not enough.” *Id.* Rather there must be a “**clear showing**” of “substantial and immediate irreparable injury.” *Id.* (quoting *Winter v. Natural Res. Def. Council, Inc.*, 555 U.S. 7, 20 (2008) and *O’Shea v. Littleton*, 414 U.S. 488, 502 (1974)); *see also Monsanto Co. v. Geertson Seed Farms*, 130 S. Ct. 2743, 2757 (2010) (applying *Winter* in permanent injunction case).

**B. An Injunction for the ’691 Patent Was Improper Because Broadcom Cannot Show Irreparable Harm or Inadequacy of Money Damages**

The district court abused its discretion in enjoining Emulex’s InSpeed products found to infringe the ’691 patent. Irreparable harm may not be presumed from the mere fact of infringement, and Broadcom can show neither actual irreparable harm nor the inadequacy of money damages, both of which are necessary to support an injunction. *See Robert Bosch LLC v. Pylon Mfg. Corp.*, 659 F.3d 1142, 1149 (Fed. Cir. 2011). Indeed, Broadcom’s own expert admitted that Broadcom would be fully compensated by monetary relief for any infringement of the ’691 patent. [A3987-88(244:15-246:16)]

This is not a “traditional case[]” in which “the patentee and adjudged infringer both practice the patented technology.” *Bosch*, 69 F.3d. at 1150. Broadcom bought the ’691 patent from a bankrupt company and has never practiced the patent, which is directed to a particular type of Fibre Channel embedded switch. It is undisputed that Broadcom has never made an embedded Fibre Channel switch or any other Fibre Channel product, nor does it intend to in the future. [A4584-85]

Broadcom concedes that it does not directly compete with Emulex’s InSpeed embedded Fibre Channel switches. [A4829-30] Rather, Broadcom based its claim of irreparable harm for the ’691 patent entirely on an indirect “protocol-level competition” theory between Fibre Channel and Ethernet protocols such as FCoE. [*Id.*; A2418-19; A2426] This “protocol-level competition” theory with respect to the ’691 patent is belied by the fact that the accused InSpeed products speak directly to disk drives, and there are no disk drives that speak Ethernet or FCoE. [A3002-03(121:20-122:2); A3721-23(¶¶ 15, 18)] There can be no “indirect” or “protocol” competition between Fibre Channel and Ethernet if Ethernet and FCoE cannot fulfill the need satisfied by the accused products. Even before the Supreme Court’s *eBay* decision, this Court noted that such a lack of competition weighs strongly against a finding of irreparable harm. *See, e.g., High Tech Med.*

*Instrumentation Inc. v. New Image Indus., Inc.*, 49 F.3d 1551, 1556 (Fed. Cir. 1995).

Broadcom's own evidence confirms that Broadcom does not and will not compete with Emulex's InSpeed products under any theory, including the "protocol theory" adopted by the district court. [REDACTED]

[REDACTED]

[REDACTED] And Broadcom's damages expert admitted that [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Finally, the market share evidence produced by Broadcom—erroneously relied on by the district court as evidence of competition and irreparable harm—is irrelevant. [A17] It showed only that Broadcom was losing market share in the 10Gbps Ethernet market to Emulex's Ethernet products, not that Broadcom had lost any market share to Emulex's InSpeed Fibre Channel products. [A2625-26; A2603-05; A2615, *cited in* A17]

Given the lack of competition in the pure Fibre Channel market, Broadcom has not and will not suffer any loss of market share, loss of business opportunities,

price erosion, or other irreparable harms that could not be fully compensated by monetary damages. [REDACTED]

[REDACTED] In light of this admission alone, the district court's finding to the contrary was clearly erroneous, and thus an abuse of discretion. *Innogenetics*, 512 F.3d at 1379

**C. The Scope of the Injunction for the '150 Patent Was an Abuse of Discretion**

The district court also abused its discretion when it enjoined sales of Emulex chips for use in products for which there had already been a design win.

Broadcom cannot establish irreparable harm for these products because it already lost these sales, and the customers cannot change suppliers. Moreover, even with the district court's limited sunset provision, enjoining these products will result in significant market disruptions and irreparable third party harm with no corresponding benefit to Broadcom. Under the balancing of harms required under *eBay*, an injunction was improper.

**1. Broadcom Has Not Established Irreparable Harm**

Broadcom has not met its burden of establishing irreparable harm. At least as to sales of Fibre Channel products and sales for which there has already been a

design win, there was no evidence of any nexus between the alleged harm and the conduct found to infringe.

The OEMs who selected the enjoined Emulex's products for inclusion in their server and storage technology did not do so to achieve the functionality claimed in the '150 patent, which is directed only to a small portion of one circuit of one chip within the enjoined adapters and switches. [A522(42:13-25); A541(115:23-116:6); [REDACTED]

[REDACTED] Rather, the OEMs chose Emulex products because of other features, including their proven Fibre Channel and FCoE technology. [REDACTED]

[REDACTED]

Regardless of any infringing conduct, Broadcom could not have obtained these design wins instead of Emulex because it did not have a suitable alternative providing either Fibre Channel or FCoE capacity. As "sales would [have] been lost regardless of the infringing conduct," irreparable harm cannot be shown. *Apple*, 2012 WL 1662048 at \*7.

First, two of the products enjoined for infringing the '150 patent—the InSpeed 442 switches and Lancer HBA chips—are pure Fibre Channel products. As discussed above, Broadcom has not established any direct or indirect competition with regard to the InSpeed products and cannot show any substantial irreparable harm. *Supra* pp. 52-55. For the Lancer product, the district court's



only ground for finding irreparable harm was its clearly erroneous conclusion that all Lancer products had Ethernet capabilities and would therefore compete directly with Broadcom's 10Gbps Ethernet products. [A15(n.6)] The district court ignored the indisputable evidence that the current versions of Lancer do not have Ethernet capabilities, but rather are configured as pure Fibre Channel host bus adapters. [A3711(¶ 6); A5175(361:1-10)] This was an abuse of discretion.

Second, while some upcoming models of the Lancer Chip will be configured as converged network adapters (CNAs), Broadcom cannot establish irreparable harm from sales of these products because it cannot provide a product with the Fibre Channel portion of that functionality. OEMs choose Lancer chips when they want a CNA with both Fibre Channel and Ethernet/FCoE capability in a single chip—something Broadcom indisputably cannot provide. [REDACTED]

Third, Broadcom also failed to establish that its products would have been a viable alternative for design wins secured by Emulex's converged FCoE adapters, the BE2 and BE3 chips. In fact, the evidence is to the contrary. Nearly all of the design wins for the enjoined products were secured by 2010, when the major design competitions for Intel's "Romley" processor took place. [REDACTED]

[REDACTED] Sworn declarations and testimony [REDACTED] [REDACTED] established that Emulex's BE2 and BE3 chips were chosen because the OEMs required converged adapters with FCoE functionality,

which their customers were increasingly demanding. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Thus, whether or not there was infringement, Broadcom could not have won design competitions where its product was either unavailable or unacceptable to OEMs and their end customers.

Fourth, sworn third party declarations establish that the enjoined Emulex chips cannot be immediately replaced by Broadcom products, and even today any eventual replacement is highly unlikely to come from Broadcom. [REDACTED]

[REDACTED]

[REDACTED] As a result,

Broadcom will not lose sales, market share, or other advantage if the Emulex

products continue to be sold. Significantly, Broadcom did not introduce any third party evidence rebutting these facts.

By limiting the “sunset” provision to products for which there was an OEM model specific qualification and production quantity order prior to October 11, 2011, the district court constructed relief that was punitive in nature. It shut down sales of products to OEMs who had already awarded design wins to Emulex but had not either completed qualification or placed production orders by October 11. Those design wins represented the point of no return, and enjoining the products used in those design wins does nothing to restore sales to Broadcom; instead it penalizes Emulex, its OEMs, and the end-users who will have to wait for delayed and more costly data center products. In light of the lack of evidence that Broadcom could have secured the Emulex design wins or that its products would now replace the enjoined Emulex products, the district court’s finding of irreparable harm was clearly erroneous

## **2. The District Court Clearly Erred in Weighing the Four Injunction Factors**

Sworn declarations and testimony from OEMs document the significant irreparable harm they and their customers will face from an injunction for products for which there has already been a design win. *See supra* pp. 11-13. And Broadcom provided no evidence to rebut this showing of harm. As the district

court itself found, once a chip is selected for use in a particular OEM product the decision is essentially irrevocable. [A13(“[T]he complexity of the OEM’s products and the extensive period necessary to develop and bring its products to market leave little if any room for altering course once the winner of the design competition is chosen.”)] [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] As a result, an injunction will keep critical next generation server technology from the market. And as detailed without dispute in the record below, the OEMs will be substantially harmed in immediate and tangible ways— [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

End users, such as banks, hospitals, government and major e-commerce businesses, who depend on networks that use Emulex products for their most sensitive, mission critical data will also be harmed, as will the public at large who rely on these services. [REDACTED]

[REDACTED]

[REDACTED] The end users cannot simply substitute server products from another vendor. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Thus, the public interest will be significantly disserved by the injunction.

The district court's inclusion in the injunction order of a narrow sunset provision is not adequate to address the public harm and substantial market disruption. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Moreover, the sunset provision for the '150 patent will expire in April 2011, only a year from when the injunction went into effect. [A26-27] This directly conflicts with the district court's own finding that the OEMs need on average 18 months to redesign their products. *Id.* Thus, many products will need to be pulled from the market in a year's time, with significant harm to the OEMs and their customers. *See supra* p. 13.

These harms to the public are not counterbalanced by preventing harm to Broadcom. The harms to Broadcom that the district court did identify—the exclusion from being able to fairly compete in design competitions and Broadcom’s alleged loss of market share in the 10Gbps Ethernet market—are irrelevant when there has already been a design win. [A16-18] An injunction cannot turn back the clock and change these earlier design win decisions, which have resulted in products specifically designed for the Emulex chips.

The district court also abused its discretion in categorically excluding distributors from the sunset provision, despite unrebutted declarations documenting the significant harm to the distributors, their customers, and ultimately the public, that will result from an immediate injunction. [A5886; A5716; A5703; A5708; A5698] For example, in the face of this injunction, many end users will have no ability to obtain replacement adaptor cards. [REDACTED]

[REDACTED] This result is punitive—distributors sell to end users with mature systems that have long been in the market, so there is no risk of these sales causing Broadcom to lose new business. [REDACTED]

[REDACTED]

Thus, the district court made a “clear error of judgment” in weighing the relevant factors, and its injunction must be vacated, at least as to sales of products for which there has already been a design win. *See Innogenetics*, 512 F.3d at 1379.

## CONCLUSION

For the foregoing reasons, the district court's judgments of infringement and validity should be reversed and the injunction vacated. Even if the district court's liability ruling is affirmed, this Court should vacate the '691 patent injunction and vacate the '150 patent injunction as to sales of Fibre Channel products and products for which there was a preexisting design win.

Dated: June 11, 2012

Respectfully Submitted,

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